

WE CLAIM:

1. An isolated nucleic acid comprising at least 12 consecutive nucleotides of a nucleotide sequence selected from the group consisting of SEQ ID NO: 1,
5 complementary sequence of SEQ ID NO: 1; SEQ ID NO: 2, complementary sequence of SEQ ID NO: 2; SEQ ID NO: 3; complementary sequence of SEQ ID NO: 3; SEQ ID NO: 4; complementary sequence of SEQ ID NO: 4; SEQ ID NO: 5, complementary sequence of SEQ ID NO: 5; SEQ ID NO: 6, complementary sequence of SEQ ID NO: 6; SEQ ID NO: 7, complementary sequence of SEQ ID NO: 7; SEQ ID NO: 8, complementary
10 sequence of SEQ ID NO: 8; SEQ ID NO: 9; complementary sequence of SEQ ID NO: 9; SEQ ID NO: 10; complementary sequence of SEQ ID NO: 10; SEQ ID NO: 11; complementary sequence of SEQ ID NO: 11; SEQ ID NO: 12; complementary sequence of SEQ ID NO: 12; SEQ ID NO: 13; complementary sequence of SEQ ID NO: 13; SEQ ID NO: 14; complementary sequence of SEQ ID NO: 14; SEQ ID NO: 15;
15 complementary sequence of SEQ ID NO: 15; SEQ ID NO: 16; complementary sequence of SEQ ID NO: 16; SEQ ID NO: 17; complementary sequence of SEQ ID NO: 17; SEQ ID NO: 18 and complementary sequence of SEQ ID NO: 18.
2. The isolated nucleic acid of claim 1, wherein the nucleic acid comprises at least 15 consecutive nucleotides of the nucleotide sequence.
- 20 3. The isolated nucleic acid of claim 1, wherein the nucleic acid comprises at least 18 consecutive nucleotides of the nucleotide sequence.
4. The isolated nucleic acid of claim 1, immobilized on a solid surface.
5. The isolated nucleic acid of claim 1, wherein the nucleic acid is capable of detecting *Mycobacterium tuberculosis*.
- 25 6. A pair of forward and reverse primers for amplification of VNTR located in DNA isolated from *Mycobacterium tuberculosis* species, said pair being selected from the group consisting of SEQ ID NO: 1 and SEQ ID NO: 2; SEQ ID NO: 3 and SEQ ID NO: 4; SEQ ID NO: 5 and SEQ ID NO: 6; SEQ ID NO: 7 and SEQ ID NO: 8; SEQ ID NO: 9 and SEQ ID NO: 10; SEQ ID NO: 11 and SEQ ID NO: 12; SEQ ID NO: 13

and SEQ ID NO: 14; SEQ ID NO: 15 and SEQ ID NO: 16; and SEQ ID NO: 17 and SEQ ID NO: 18.

7. The pair of forward and reverse primers of claim 6, wherein a member of said pair comprises an observable marker.

5 8. The pair of forward and reverse primers of claim 7, wherein said marker is a fluorescent label.

9. The pair of forward and reverse primers of claim 7, wherein said marker is a radioactive group.

10 10. The pair of forward and reverse primers of claim 6 as PCR primers in the detection of a *Mycobacterium tuberculosis* species.

11. A method for detecting a *Mycobacterium tuberculosis* species comprising the steps of:

- i. obtaining a DNA sample from said species,
- ii. amplifying a VNTR marker loci in said DNA with the pair of forward
15 and reverse primers of claim 6; and
- iii. detecting an amplification product that contains the VNTR sequence.

12. A kit for the detection of a *Mycobacterium tuberculosis* species comprising the pair of forward and reverse primers of claim 6.

13. The kit of claim 11 comprising in addition nucleic acids, enzymes and
20 buffers suitable for causing amplification of VNTR in DNA from said species in a PCR instrument.

14. A kit for detecting a *Mycobacterium tuberculosis* species comprising:
i. the pair of forward and reverse primers of Claim 6;
ii. nucleic acids having an observable marker;
25 iii. a transcriptase; and
iv. buffers and salts suitable for causing polymerization of VNTR in DNA from said *Mycobacterium tuberculosis* species in a PCR instrument.

15. The kit of Claim 13 for multiplexing DNA from a *Mycobacterium tuberculosis* species wherein said kit comprises mixtures of said pair of forward and
30 reverse primers for use in a multiplex instrument.

16. A method of sub-typing a *Mycobacterium Tuberculosis* strain comprising the steps of:

- i. obtaining DNA from said strain;
- ii. amplifying said DNA with the pair of forward and reverse primers

5 from claim 6;

- iii. detecting said amplified product;
- iv. determining the diversity number of said amplified product; and
- v. comparing said diversity number with the diversity number for a known strain of *Mycobacterium tuberculosis*

10 17. The kit of claim 15 comprising in addition one or more pair of forward and reverse primers for amplification of MIRU in *Mycobacterium tuberculosis*.